# **CUMULATIVE INDEXES**

# CONTRIBUTING AUTHORS, VOLUMES 52-56

## A

Ackers, G., 54:597–629 Albersheim, P., 53:625–63 Ames, G. F.-L., 55:397–426 Amzel, L. M., 52:801–24 Anderson, M. E., 52:711–60 Andreadis, A., 56:467–96

### B

Baird, A., 54:403-23 Barbacid, M., 56:779-828 Bass, B. L., 55:599-630 Baughman, G., 53:75-117 Bear, D. G., 53:389-446 Beechem, J. M., 54:43-71 Bennett, V., 54:273-304 Benson, S. A., 54:101-134 Bergh, M. L. E., 56:915-44 Bernstein, S. I., 56:695-726 Berridge, M., 56:159-94 Bessman, S. P., 54:831-62 Bishop, J. M., 52:301-54 Björk, G. R., 56:263-88 Blackburn, E. H., 53:163-94 Bloch, K., 56:1-20 Blumenthal, D. K., 56:567-614 Böhlen, P., 54:403-23 Bond, J. S., 56:333-64 Borst, P., 55:701-32 Bradshaw, R. A., 53:259-92 Brand, L., 54:43-71 Brazeau, P., 54:403-23 Breitbart, R. E., 56:467-96 Breslow, J. L., 54:699-727 Brill, W. J., 53:231-57 Brown, M. S., 52:223-61 Butler, P. E., 56:333-64

### C

Cadenas, E., 55:137-66 Campbell, J., 55:733-72 Cantley, L. C., 55:511-38 Carafoli, E., 56:395-434 Caron, M. G., 52:159-86 Carpenter, C. L., 54:831-62 Carpenter, G., 56:881-914 Catterall, W. A., 55:953-86 Cech, T. R., 55:599–630 Chance, B., 55:137–66 Chase, J. W., 55:103–36 Choppin, P. W., 52:467– 506 Chothia, C., 53:537–72 Cimino, G. D., 54:1151–93 Civelli, O., 53:665–715 Clarke, S., 54:479–506 Clayton, D. A., 53:573–94 Cleveland, D. W., 54:331–65 Colman, R. F., 52:67–91 Cooper, A. J. L., 52:187–222

Cooper, J. A., 54:897-930 Cooper, J. A., 55:987-1036

Cushman, S. W., 55:1059-90

Cox, M. M., 56:229-62

#### n

Darvill, A. G., 53:625–63 Dawidowicz, E. A., 56:43–62 Deininger, P. L., 55:631–62 DeLuca, H. F., 52:411–39 Doerfler, W., 52:93–124 Dooittle, R. F., 53:195–229 Douglass, J., 53:665–715 Duch, D. S., 54:729–64

### E

Eckstein, F., 54:367–402 Edelman, A. M., 56:567– 614 Edelman, G., 54:135–69 Efstratiadis, A., 55:631–62 Eisenberg, D., 53:595–623 Elbein, A. D., 56:497–534 Emerson, C. P., 56:695–726 Ericson, J. U., 56:263–88 Esch, F., 54:403–23 Evans, R. M., 55:1091–119 Eyre, D. R., 53:717–48

### F

Forbes, D. J., 56:535-66 Fraenkel, D., 55:317-38 Fry, S. C., 53:625-63 Fuchs, R., 55:663-700

## G

Gallop, P. M., 53:717-48 Gamper, H. B., 54:1151-93 Ganem, D., 56:651-94 Gaull, G. E., 55:427-54 Gerisch, G., 56:853-80 Gilman, A. G., 56:615-50 Glazer, A. N., 52:125-57 Goldstein, J. L., 52:223-61 Gonzalez, F. J., 56:945-94 Gourse, R., 53:75-117 Grabowski, P. J., 55:1119-50 Green, P. J., 55:569-98 Greengard, P., 54:931-76 Griffith, O. W., 55:855-78 Grindley, N. D. F., 54:863-96 Gross, H. J., 54:531-64 Guillemin, R., 54:403-23 Gusella, J. F., 55:831-54 Gustafsson, C. E. D., 56:263-

# Н

Habu, S., 54:803-30 Hagervall, T. G., 56:263-88 Hall, M. N., 54:101-34 Hamer, D. H., 55:913-52 Hammarström, S., 52:355-77 Hanahan, D. J., 55:483-510 Harrington, W. F., 53:35-73 Hascall, V. C., 55:539-68 Hasilik, A., 55:167-94 Hassell, J. R., 55:539-68 Hatefi, Y., 54:1015-69 Hayaishi, O., 54:73-100 Hearst, J. E., 54:1151-93 Helenius, A., 55:663-700 Hemmings, H. C. Jr., 54:931-76 Herbert, E., 53:665-715

Hers, H. G., 52:617–53 Hirschberg, C. B., 56:63–88 Höök, M., 53:847–69 Hokin, L. E., 54:205–35 Holmgren, A., 54:237–71 Honjo, T., 54:803–30 Hudson, T. H., 55: 195–224 Hue, L., 52:617-53 Hunter, T., 54:897-930

ī

Imperial, J., 53:231–57 Inouye, M., 55:569–98 Isaacs, S. T., 54:1151–93 Itakura, K., 53:323–56

J

Jackson, B. J., 56:915-44 Jakschik, B. A., 55:69-102 James, R., 53:259-92 Jay, D., 55:511-38 Johansson, S., 53:847-69 Jönsson, Y. H., 56:263-88 Joshi, V. C., 52:537-79

### K

Kaiser, E. T., 54:565–95 Kamen, M. D., 55:1–34 Karlsson, S., 54:1071–108 Karplus, M., 52:263–300 K£lly, R. B., 52:871–926 Kimura, J. H., 55:539–68 Kjellén, L. 53:847–69 Konarska, M. M., 55:1119–50 Kornfeld, R., 54:631–64 Kornfeld, S., 54:631–64 Kossiakoff, A., 54:1195–1227 Krebs, E. G., 56:567–614 Kukuruzinska, M. A., 56:915–44

I.

Lake, J. A., 54:507-30 Lamb, R. A., 52:467-506 Langer, J. A., 56:727-78 Lawrence, D. S., 54:565-95 Leff, S. E., 55:1091-119 Lefkowith, J. B., 55:69-102 Lefkowitz, R. J., 52:159-86 Lehman, I. R., 56:229-62 Leloir, L. F., 52:1-15 Lin, Y. Y., 55:427-54 Lindquist, S., 55:1051-92 Ling, N., 54:403-23 Liotta, L. A., 55:1037-59 Lipmann, F., 53:1-33 Lipscomb, W. N., 52:17-34 Lis, H., 55:35-68 Lorimer, G. H., 52:507-35 Lunardi, J., 54:977-1014 Lynch, D. R., 55:773-800

## M

McClure, W. R., 54:171-204

McNeil, M., 53:625–63 McSwiggen, J. A., 53:389–446 Meister, A., 52:711–60 Mellman, I., 55:663–700 Melloni, E., 55:455–82 Mishkind, M., 55:879–912 Miziorko, H. M., 52:507–35 Modrich, P., 56:433–66 Moldave, K., 54:1109–49 Morgan, W. D., 53:389–446 Morrison, A. R., 55:69–102 Myers, A. M., 55:69–102 Myers, A. M., 55:249–86

#### N

Nadal-Ginard, B., 56:467–96 Nairn, A. C., 54:931–76 Naqui, A., 55:137–66 Nebert, D. W., 56:945–94 Needleman, P., 55:69–102 Neville, D. M. Jr., 55:195–224 Nevins, J. R., 52:441–66 Newport, J. W., 56:535–66 Nichol, C., 54:729–64 Nienhuis, A. W., 54:1071–108 Noller, H. F., 53:119–62 Nomura, M., 53:75–117 Nordheim, A., 53:791–846 Nossal, N. G., 52:581–615 Nunez, H. A., 54:765–801

0

Osawa, T., 56:21-42 Overath, P., 55:225-48

P

Pabo, C. O., 53:293–321 Padgett, R. A., 55:1119–50 Paz, M. A., 53:717–48 Pedersen, P. L., 52:801–24 Pestka, S., 56:727–78 Pfeffer, S. R., 56:829–52 Pines, O., 55:569–98 Platt, T., 55:339–72 Pollard, T. D., 55:987–1036 Pontremoli, S., 55:455–82

0

Quiocho, F. A., 55:287-316

R

Rao, C. N., 55:1037–58 Reed, R., 54:863–96 Reichardt, L. F., 52:871–926 Rescei, P. A., 53:357–87 Rich, A., 53:791–846 Riesner, D., 54:531–64 Robinson, J., 53:847–69 Rodgers, M. E., 53:35–73 Rokita, S. E., 54:565–95 Rosenfeld, M. G., 55:1091–119 Rossi, J. J., 53:323–56 Rothman, J. E., 56:829–52

S

Salvesen, G. S., 52:655-709 Samuel, C. E., 56:727-78 Sauer, R. T., 53:293-321 Schimmel, P., 56:125-58 Schmidt, G. W., 55:879-912 Schneider, R. J., 56:317-32 Schnoes, H. K., 52:411-39 Scott, M. P., 56:195-228 Seckler, R., 55:225-48 Seiler, S., 55:1119-51 Shah, V. K., 53:231-57 Sharon, N., 55:35-68 Sharp, P. A., 55:1119-50 Shenk, T., 56:317-32 Silhavy, T. J., 54:101-34 Simpson, I. A., 55:1059-90 Skehel, J. J., 56:365-94 Smith, F. R., 54:597-629 Smith, G. K., 54:729-64 Snell, E. E., 53:357-87 Snider, M. D., 56:63-88 Snyder, S. H., 55:773-800 Sollner-Webb, B., 55:801-30 Srere, P. A., 56:89-124 Stadel, J. M., 52:159-86 Stark, G. R., 53:447-91 Stoops, J. K., 52:537-79 Strominger, J. L., 52:825-69 Sullivan, K. F., 54:331-65 Suttie, J. W., 54:459-77 Sweeley, C. C., 54:765-801 Szostak, J. W., 53:163-94

T

Tabor, C. W., 53:749–90
Tabor, H., 53:749–90
Tallan, H. H., 55:427–54
Tanford, C., 52:379–409
Theil, E. C., 56:289–316
Tower, J., 55:801–30
Travis, J., 52:655–709
Tsuji, T., 56:21–42
Turk, J., 55:69–102
Tzagoloff, A. A., 55:249–86

U

Ueda, K., 54:73-100 Ugalde, R. A., 53:231-57

V

Varmus, H. E., 56:651-94 Vignais, P. V., 54:977-1014 von Figura, K., 55:167-94 von Hippel, P. H., 53:389-446

W

Wahl, G. M., 53:447–91 Wakil, S. J., 52:537–79 Walker, G. C., 54:425–57 Wallace, R. B., 53:323–56 Walsh, C. T., 53:493–535 Wang, A. H.-J., 53:791–846 Wang, J., 54:665–97 Waxman, D. J., 52:825–69 Wehrenberg, W. B., 54:403– 23

Wewer, U. M., 55:1037-58 Wickner, R. B., 55:373-96 Wikström, P. M., 56:263-

88 Wiley, D. C., 56:365-94 Williams, K. R., 55:103-36 Wittmann, H. G., 52:35-65 Wood, H., 54:1-41 Wright, C. E., 55:427-54 Wright, J. K., 55:225-48

V

Yamada, K. M., 52:761-99

Z

Zeytin, F., 54:403-23 Ziegler, D. M., 54:305-29 Zoon, K. C., 56:727-78

# CHAPTER TITLES, VOLUMES 52-56

PREFATORY		
Long Ago and Far Away	L. F. Leloir	52:1-15
A Long Life in Times of Great Upheaval	F. Lipmann	53:1-33
Then and Now	H. G. Wood	54:1-41
A Cupful of Luck, A Pinch of Sagacity	M. D. Kamen	55:1-34
Summing Up	K. Bloch	56:1-20
AMINO ACIDS		
Biochemistry of Sulfur-Containing Amino		
Acids	A. J. L. Cooper	52:187-222
Polyamines	C. W. Tabor, H. Tabor	53:749-90
Role of Reversible Oxidation-Reduction of Enzyme Thiols-Disulfides in Metabolic		
Regulation	D. M. Ziegler	54:305-29
Bacterial Periplasmic Transport Systems:		
Structure, Mechanism, and Evolution β-Amino Acids: Mammalian Metabolism an	G. FL. Ames	55:397-426
Utility as α-Amino Acid Analogues	O. W. Griffith	55:855-78
BIOENERGETICS (See also Contractile Proteins	s, Membranes, and Transport)	
Comparative Biochemistry of Photosynthetic		
Light-Harvesting Systems	A. N. Glazer	52:125-57
Mechanism of Free Energy Coupling in		
Active Transport	C. Tanford	52:379-409
Proton ATPases: Structure and Mechanism	L. M. Amzel, P. L. Pedersen	52:801-24
Myosin	W. F. Harrington, M. E. Rodgers	53:35-73
Chemical Probes of the Mitochondrial ATP		
Synthesis and Translocation	P. V. Vignais, J. Lunardi	54:977-
		1014
The Mitochondrial Electron Transport and		
Oxidative Phosphorylation System	Y. Hatefi	54:1015-69
Inositol Trisphosphate and Diacylglycerol:		
Two Interacting Second Messengers	M. J. Berridge	56:159-94
Intracellular Calcium Homeostasis	E. Carafoli	56:395-434
CANCER (See Biochemistry of Disease)		
CARBOHYDRATES		
Gluconeogenesis and Related Aspects of		
Glycolysis	H. G. Hers, L. Hue	52:617-53
Cell Surface Interactions with Extracellular		
Materials	K. M. Yamada	52:761-99
Structure and Function of the Primary Cell		
Walls of Plants	M. McNeil, A. G. Darvill, S. C.	
	Fry, P. Albersheim	53:625-63
Cell-Surface Glycosaminoglycans	M. Höök, L. Kjellén, S. Johansson,	
	J. Robinson	53:847-69
Assembly of Asparagine-Linked		
Oligosaccharides	R. Kornfeld, S. Kornfeld	54:631-64

	Structurał Analysis of Glycoconjugates by		
	Mass Spectrometry and Nuclear Magnetic		
	Resonance Spectroscopy	C. C. Sweeley, H. A. Nunez	54:765-801
	Lectins as Molecules and as Tools	H. Lis, N. Sharon	55:35-68
	Proteoglycan Core Protein Families	J. R. Hassell, J. H. Kimura,	
		V. C. Hascall	55:539-68
	Mutants in Glucose Metabolism	D. G. Fraenkel	55: 317-38
	Fractionation and Structural Assessment of Oligosaccharides and Glycopeptides by Use		
	of Immobilized Lectins	T. Osawa, T. Tsuji	56: 21-42
	Topography of Glycosylation in the Rough Endoplasmic Reticulum and Golgi		
	Apparatus	C. B. Hirschberg, M. D. Snider	56:63-88
	Inhibitors of the Biosynthesis and Processing	A D DU 1	ec 100 en 1
	of N-Linked Oligosaccharide Chains	A. D. Elbein	56:497-534
	Protein Glycosylation in Yeast	M. A. Kukuruzinska, M. L. E. Bergh, B. J. Jackson	56:915-44
		Bergn, B. J. Jackson	36:913-44
	CELL ORGANELLES		
,	Architecture of Prokaryotic Ribosomes	H. G. Wittmann	52:35-65
	Regulation of the Synthesis of Ribosomes and	H. G. Wittinann	32:33-03
	Ribosomal Components	M. Nomura, R. Gourse,	
	Kioosomai Components	G. Baughman	53:75-117
	Structure of Ribosomal RNA	H. F. Noller	53:119-62
	Transcription of the Mammalian	n. r. Nonei	33.119-02
	Mitochondrial Genome	D. A. Clayton	53:573-94
	The Membrane Skeleton of Human	D. A. Clayton	33.313-74
	Erythrocytes and its Implications for More		
	Complex Cells	V. Bennett	54:273-304
	The Creatine-Creatine Phosphate Energy	v. Beillett	34.273-304
	Shuttle	S. P. Bessman, C. L. Carpenter	54:831-62
	Acidification of the Endocytic and Exocytic	or transmin, or an emponer	
	Pathways	I. Mellman, R. Fuchs, A. Helenius	55:663-700
	The Nucleus: Structure, Function, and		
	Dynamics	J. W. Newport, D. J. Forbes	56:535-66
	CELL WALLS		
	Penicillin-Binding Proteins and the		
	Mechanism of Action of β-Lactam		
	Antibiotics	D. J. Waxman, J. L. Strominger	52:825-69
	Structure and Function of the Primary Cell		
	Walls of Plants	M. McNeil, A. G. Darvill, S. C.	
		Fry, P. Albersheim	53:625-63
	DEVELOPMENT AND DIFFERENTIATION		#2 ##0 OF
	Polypeptide Growth Factors	R. James, R. A. Bradshaw	53:259–92
	Cell Adhesion and the Molecular Processes of	C M Film	64 126 (0
	Morphogenesis	G. M. Edelman	54:135-69
	Protein-Tyrosine Kinases	T. Hunter, J. A. Cooper M. P. Scott	54:897-930 56:195-228
	Complex Loci of Drosophila	M. P. Scott	30:193-228
	Cyclic AMP and Other Signals Controlling Cell Development and Differentiation in		
	Dictyostelium	G. Gerisch	56:853-80
	Dictyosieium	G. Gerisch	30.633-60
	DISEASE, BIOCHEMISTRY OF		
	Lipoprotein Metabolism in the Macrophage:		
	Implications for Cholesterol Deposition in		
	Atherosclerosis	M. S. Brown, J. L. Goldstein	52:223-61
	Cellular Oncogenes and Retroviruses	J. M. Bishop	52:301-54
	Human Apolipoprotein Molecular Biology and		
	Genetic Variation	J. L. Breslow	54:699-727
	Discontinuous Transcription and Antigenic		
	Variation in Trypanosomes	P. Borst	55:701-32
	•		

# 1084 CHAPTER TITLES

Eukaryotic DNA Replication	J. L. Campbell	55: 733-72
DNA Polymorphism and Human Disease The Molecular Biology of the Hepatitis B	J. F. Gusella	55: 831–54
Viruses	D. Ganem, H. E. Varmus	56:651-94
Interferons and Their Actions	S. Pestka, J. A. Langer, K. C.	54 707 70
	Zoon, C. E. Samuel	56:727-78
ras Genes	M. Barbacid	56:779–828
DNA		
General		
DNA Methylation and Gene Activity	W. Doerfler	52:93-124
Mechanism and Control of Transcription Initiation in Prokaryotes	W. R. McClure	54:171-204
·		
Recombination	N. D. E. G.:-II D. D. D. D.	£4.963 06
Transpositional Recombination in Prokaryotes	N. D. F. Grindley, R. R. Reed	54:863-96
Enzymes of General Recombination	M. M. Cox, I. R. Lehman	56:229-62
Repair		
Inducible DNA Repair Systems	G. C. Walker	54:425-57
DNA Mismatch Correction	P. Modrich	56:435–66
Replication		
Prokaryotic DNA Replication Systems	N. G. Nossal	52:581-615
The Molecular Structure of Centromeres and Telomeres	E. H. Blackburn, J. W. Szostak	53:163-94
Single-Stranded DNA Binding Proteins	E. H. Biackourii, J. W. Szostak	33.103-94
Required for DNA Replication	J. W. Chase, K. R. Williams	55:103-36
Restriction Modification		
Structure		
DNA Methylation and Gene Actvity	W. Doerfler	52:93-124
The Molecular Structure of Centromeres and		
Telomeres	E. H. Blackburn, J. W. Szostak	53:163-94
The Chemistry and Biology of Left-Handed	A Dick A Nordheim A U I	
Z-DNA	A. Rich, A. Nordheim, A. HJ.	53:791-846
DNA Topoisomerases	Wang J. C. Wang	54:665-97
DNA Topoisomerases	J. C. Wang	34.003-97
DRUGS, ANTIBIOTICS, AND ANTIMETABOLIT		
Mechanism of Action of β-Lactam Antibiotics Biosynthesis and Metabolism of	D. J. Waxman, J. L. Strominger	52:825–69
Tetrahydrobiopterin and Molybdopterin	C. A. Nichol, G. K. Smith,	
	D. S. Duch	54:729-64
ENZYMES		
Mechanisms and Kinetics	W M I'm	62.17.24
Structure and Catalysis of Enzymes	W. N. Lipscomb	52:17-34
Mechanism of Action of β-Lactam Antibiotics Suicide Substrates, Mechanism-Based Enzyme	D. J. Waxman, J. L. Strominger	52:825-69
Inactivators: Recent Developments	C. T. Walsh	53:493-535
The Chemical Modification of Enzymatic	C. I. Walsh	33.493-333
Specificity	E. T. Kaiser, D. S. Lawrence,	
•	S. E. Rokita	54:565-96
Reactive Oxygen Intermediates in		
Biochemistry	A. Naqui, B. Chance, E. Cadenas	55:137-66
Regulation		
Human Plasma Proteinase Inhibitors	J. Travis, G. S. Salvesen	52:655-709
Inositol Trisphosphate and Diacylglycerol:		
Two Interacting Second Messengers	M. J. Berridge	56:159-94

Specific Enzymes and Classes Ribulose-1,5-Bisphosphate		
Carboxylase-Oxygenase	H. M. Miziorko, G. H. Lorimer	52:507-35
Molybdenum in Nitrogenase	V. K. Shah, R. A. Ugalde, J. Imperial, W. J. Brill	53:231-57
Pyruvoyl Enzymes	P. A. Rescei, E. E. Snell	53:357-87
ADP-Ribosylation	K. Ueda, O. Hayaishi	54:73-100
Nucleoside Phosphorothioates	F. Eckstein	54:367-402
Protein Carboxyl Methyltransferases: Two Distinct Classes of Enzymes	S. Clarke	54:479-506
Lysosomal Enzymes and Their Receptors	K. von Figura, A. Hasilik	55:167-94
Aminoacyl tRNA Synthetases: General Scheme of Structure-Function Relationships in the Polypeptides and Recognition of		33.107-94
Transfer RNAs	P. Schimmel	56:125-58
Enzymes of General Recombination	M. M. Cox, I. R. Lehman	56:229-62
Intracellular Proteases	J. S. Bond, P. E. Butler	56:333-64
Structure (Protein)		
Structure and Catalysis of Enzymes	W. N. Lipscomb	52:17-34
DNA Methylation and Gene Activity	W. Doerfler	52:93-124
Pyruvoyl Enzymes	P. A. Rescei, E. E. Snell	53:357-87
ENES AND BIOCHEMICAL GENETICS (See als	so DNA and RNA)	
DNA Methylation and Gene Activity	W. Doerfler	52:93-124
Cellular Oncogenes and Retroviruses	J. M. Bishop	52:301-54
The Gene Structure and Replication of	J. M. Dishop	32.301-34
Influenza Virus	R. A. Lamb, P. W. Choppin	52:467-506
Gene Amplification	G. R. Stark, G. M. Wahl	53:447-91
Developmental Regulation of Human Globin	G. R. Stark, G. M. Walli	33.447-91
Genes Genes	S. Karlsson, A. W. Nienhuis	54:1071- 108
Psoralens as Photoactive Probes of Nucleic Acid Structure and Function: Organic Chemistry, Photochemistry, and		
Biochemistry	G. D. Cimino, H. B. Gamper,	
	S. T. Isaacs, J. E. Hearst	54:1151-93
Metallothionein	D. H. Hamer	55: 913-52
Complex Transcriptional Units: Diversity in Gene Expression by Alternative RNA	2.10	
Processing	S. E. Leff, M. G. Rosenfeld,	
	R. M. Evans	55:
		1091-119
Mutants in Glucose Metabolism	D. G. Fraenkel	55: 317-31
Complex Loci of Drosophila	M. P. Scott	56:195-22
Alternative Splicing: A Ubiquitous Mechanism for the Generation of Multiple Protein Isoforms from Single		
Genes	R. E. Breitbart, A. Andreadis,	
Genes	B. Nadal-Ginard	56:467-96
ras Genes	M. Barbacid	56:779-82
P450 Genes: Structure, Evolution, and		
Regulation	D. W. Nebert, F. J. Gonzalez	56:945-94
IORMONES		
Leukotrienes	S. Hammarström	52:355-77
Polyprotein Gene Expression: Genera- tion of Diversity of Neuroendocrine		
Peptides	J. Douglass, O. Civelli, E. Herbert	53:665-71
Growth Hormone Releasing Factors	N. Ling, F. Zeytin, P. Böhlen, F. Esch, P. Brazeau, W. B.	
	Esch, P. Brazeau, W. B. Wehrenb A. Baird, R. Guillemin	54:400

# 1086 CHAPTER TITLES

IMMUNOBIOCHEMISTRY Origin of Immune Diversity: Genetic		51.002.00
Variation and Selection	T. Honjo, H. Habu	54:803-30
LIPIDS		
Lipoprotein Metabolism in the Macrophage: Implications for Cholesterol Deposition in		
Atherosclerosis	M. S. Brown, J. L. Goldstein	52:223-61
Leukotrienes Fatty Acid Synthesis and its Regulation	S. Hammarström S. J. Wakil, J. K. Stoops,	52:355-77
Patty Acid Synthesis and its Regulation	V. C. Joshi	52:537-79
Receptors and Phosphoinositide-Generated		
Second Messengers	L. E. Hokin	54:205-35
Arachidonic Acid Metabolism	P. Needleman, J. Turk, B. A. Jakschik, A. R. Morrison,	55 CO 100
Distalat Astinating Factor	J. B. Lefkowith D. J. Hanahan	55:69-102 55:483-510
Platelet Activating Factor Dynamics of Membrane Lipid Metabolism	D. J. Hananan	33:463-310
and Turnover	E. A. Dawidowicz	56:43-62
MEMBRANES		
Three-Dimensional Structure of Membrane		
and Surface Proteins	D. Eisenberg	53:595-623
Genetics of Mitochondrial Biogenesis Biochemical Interactions of Tumor Cells with	A. Tzagoloff, A. M. Myers	55:249–86
the Basement Membrane	L. A. Liotta, C. N. Rao, U. M. Wewer	55:1037-58
Dynamics of Membrane Lipid Metabolism	O. M. Wewel	33.1037-30
and Turnover Biosynthetic Protein Transport and Sorting by	E. A. Dawidowicz	56:43-62
the Endoplasmic Reticulum and Golgi	S. R. Pfeffer, J. E. Rothman	56:829-52
METABOLISM		
Mutants in Glucose Metabolism	D. G. Fraenkel	55: 317-38
Complexes of Sequential Metabolic Enzymes	P. A. Srere	56:89-124
Inositol Trisphosphate and Diacylglycerol: Two Interacting Second Messengers	M. J. Berridge	56:159-94
METHODOLOGY		
Molybdenum in Nitrogenase	V. K. Shah, R. A. Ugalde,	
Synthesis and Use of Synthetic	J. Imperial, W. J. Brill	53:231–57
Oligonucleotides	K. Itakura, J. J. Rossi,	
Divid Tar Day in de Consession	R. B. Wallace	53:323-56
Principles That Determine the Structure of Proteins	C. Chothia	53:537-72
Time-Resolved Fluorescence of Proteins	J. M. Beechem, L. Brand	54:43-71
	3. M. Decelon, E. Diana	31.13 /1
MUSCLE AND CONTRACTILE PROTEINS Myosin	W E Hamington M E Badgara	53:35-73
Actin and Actin-Binding Proteins. A Critical	W. F. Harrington, M. E. Rodgers	33.33-13
Evaluation of Mechanisms and Functions	T. D. Pollard, J. A. Cooper	55:987- 1036
Alternative Splicing: A Ubiquitous		
Mechanism for the Generation of		
Multiple Protein Isoforms from Single Genes	D E Desishest A Andreadia	
Genes	R. E. Breitbart, A. Andreadis, B. Nadal-Ginard	56:467-96
Molecular Genetics of Myosin	C. P. Emerson, Jr., S. I. Bernstein	56:695-726
NUCLEOTIDES, NUCLEOSIDES, PURINES, ANI		
Affinity Labeling of Purine Nucleotide Sites	R. F. Colman	52:67-91

NEUROBIOLOGY AND NEUROCHEMISTRY		
A Molecular Description of Nerve Terminal		
Function Polyprotein Gene Expression: Generation of	L. F. Reichardt, R. B. Kelly	52:871–926
Diversity of Neuroendocrine Peptides Protein Kinases in the Brain	J. Douglass, O. Civelli, E. Herbert A. C. Nairn, H. C. Hemmings, Jr.,	53:665-715
Troum Timeson in the Diam	P. Greengard	54:931-76
Neuropeptides: Multiple Molecular Forms,		
Metabolic Pathways, and Receptors	D. R. Lynch, S. H. Snyder G. W. Schmidt, M. L. Mishkind	55:773-800
The Transport of Proteins into Chloroplasts	G. W. Schmidt, M. L. Mishkind	55:879–912
NITROGEN FIXATION		
NUTRITION (See Vitamins, Growth Factors, and I	Essential Metabolites)	
PEPTIDES		
Glutathione	A. Meister, M. E. Anderson	52:711-60
Polyamines	C. W. Tabor, H. Tabor	53:749-90
PHOTOBIOLOGY AND PHOTOSYNTHESIS (See	Ricenergetics)	
Ribulose-1.5-Bisphosphate	. Diochergeties)	
Carboxylase-Oxygenase	H. M. Miziorko, G. H. Lorimer	52:507-35
PROTEINS		
Binding and Transport Proteins  Dynamics of Protein: Elements and Function	M. Karplus, J. A. McCammon	52:263-300
Carbohydrate-Binding Proteins: Tertiary	M. Karpius, J. A. McCammon	32.203-300
Structures and Protein-Sugar Interactions	F. Quiocho	55:287-316
Molecular Aspects of Sugar:Ion Cotransport	J. K. Wright, R. Seckler,	
	P. Overath	55:225-48
Biosynthesis		
Architecture of Prokaryotic Ribosomes	H. G. Wittmann	52:35-65
Eukaryotic Protein Synthesis	K. Moldave	54:1109-49
Impact of Virus Infection on Host Cell	R. J. Schneider, T. Shenk	56.217.22
Protein Synthesis	R. J. Schneider, 1. Shenk	56:317–32
Contractile Proteins		
Metabolism		
Extralysosomal Protein Degradation	S. Pontremoli, E. Melloni	55:455-82
Post-Translational Modification		
Biosynthetic Protein Transport and Sorting		
by the Endoplasmic Reticulum and		
Golgi	S. R. Pfeffer, J. E. Rothman	56:829-52
Protein Glycosylation in Yeast	M. A. Kukuruzinska, M. L. E. Bergh, B. J. Jackson	56:915-44
	Beign, B. J. Jackson	30.713-44
Special Classes	I T : C C C C 1	52 /55 700
Human Plasma Proteinase Inhibitors Myosin	J. Travis, G. S. Salvesen W. F. Harrington, M. E. Rodgers	52:655-709 53:35-73
Regulation of the Synthesis of Ribosomes	W. P. Hairington, W. L. Rougers	33.33-13
and Ribosomal Components	M. Nomura, R. Gourse,	
	G. Baughman	53:75-117
Fibrinogen and Fibrin	R. F. Doolittle	53:195-229
Thioredoxin	A. Holmgren	54:237-71
Molecular Biology and Genetics of Tubulin	D. W. Cleveland, K. F. Sullivan	54:331-65
The Heat-Shock Response Ferritin: Structure, Gene Regulation, and	S. Lindquist	55:1151-92
Cellular Function in Animals, Plants, and		
	E. C. Theil	56:289-316
Microorganisms	E. C. Theil	56:289-31

# 1088 CHAPTER TITLES

The Structure and Function of the Hemagglutinin Membrane Glycoprotein of		
Influenza Virus Protein Serine/Threonine Kinases	D. C. Wiley, J. J. Skehel A. M. Edelman, D. K. Blumenthal,	56:365–94
	E. G. Krebs	56:567-614
G Proteins: Transducers of		
Receptor-Generated Signals	A. G. Gilman	56:615-50
Structure		
Principles That Determine the Structure of		
Proteins Three-Dimensional Structure of Membrane	C. Chothia	53:537–72
and Surface Proteins	D. Eisenberg	53:595-623
Cross-Linking in Collagen and Elastin	D. R. Eyre, M. A. Paz,	55.575 025
	P. M. Gallop	53:717-48
Effects of Site-Specific Amino Acid Modification of Protein Interactions and		
Biological Function	G. K. Ackers, F. R. Smith	54:597-630
The Application of Neutron Crystallography to the Study of Dynamic and Hydration		
Properties of Proteins	A. A. Kossiakoff	54:1195-
		227
RECEPTORS		
Adenylate Cyclase-Coupled Beta-Adrenergic		
Receptors: Structure and Mechanisms of Activation and Desensitization	R. J. Lefkowitz, J. M. Stadel,	
Activation and Descusitization	M. G. Caron	52:159-86
Receptors for Epidermal Growth Factor and	or only	02.107 00
Other Polypeptide Mitogens	G. Carpenter	56:881-914
RNA		
Architecture of Prokaryotic Ribosomes	H. G. Wittmann	52:35-65
The Pathway of Eukaryotic mRNA Formation	J. R. Nevins	52:441-66
Structure of Ribosomal RNA	H. F. Noller	53:119-62
Protein-Nucleic Acid Interactions in Transcription: A Molecular Analysis	P. H. von Hippel, D. G. Bear, W.	
Transcription. A Molecular Analysis	D. Morgan, J. A. McSwiggen	53:389-446
Transcription of the Mammalian	D. Morgan, C. III Med Miggen	00.000
Mitochondrial Genome	D. A. Clayton	53:573-94
Evolving Ribosome Structure: Domains in		
Archaebacteria, Eubacteria, Eocytes and Eukaryotes	J. A. Lake	54:507-30
Viroids	D. Riesner, H. J. Gross	54:531-64
Transcription Termination and the Regulation		
of Gene Expression	T. Platt	55:339-72
Double-Stranded RNA Replication in Yeast: the Killer System	D. D. Wisham	ee 272 oc
The Role of Antisense RNA in Gene	R. B. Wickner	55:373–96
Regulation	P. J. Green, O. Pines, M. Inouye	55:569-98
Biological Catalysis by RNA	T. R. Cech, B. L. Bass	55:599-630
Nonviral Retroposons: Genes, Pseudogenes,		
and Transposable Elements Generated by the Reverse Flow of Genetic Informa-		
tion	A. M. Weiner, P. L. Deininger,	
	A. Efstratiadis	55:631-62
Transcription of Cloned Eukaryotic Ribosomal		
RNA Genes	B. Sollner-Webb, J. Tower	55: 801-30
Splicing of Messenger RNA Precursors	R. A. Padgett, P. J. Grabowski,	
	M. M. Konarska, S. Seiler, P. A. Sharp	55:1119-50
	1. 7s. Sharp	33.1117-30

	Aminoacyl tRNA Synthetases: General Scheme of Structure-Function Relationships in the Polypeptides and Recognition of		
	Transfer RNAs Transfer RNA Modification	P. Schimmel G. R. Björk, J. U. Ericson, C. E.	56:125-58
	Think RAY Nonicator	D. Gustafsson, T. G. Hagervall, Y. H. Jönsson, P. M. Wikström	56:263-88
	Alternative Splicing: A Ubiquitous Mechanism for the Generation of Multiple		
	Protein Isoforms from Single Genes	R. E. Breitbart, A. Andreadis, B. Nadal-Ginard	56:467-96
Т	OXINS AND TOXIC AGENTS		
	Transmembrane Transport of Diphtheria		
	Toxin, Related Toxins, and Colicins P450 Genes: Structure, Evolution, and	D. M. Neville, Jr., T. H. Hudson	55:195–224
	Regulation	D. W. Nebert, F. J. Gonzalez	56:945-94
T	RANSPORT		
	Mechanism of Free Energy Coupling in		
	Active Transport	C. Tanford	52:379-409
	Genetic Analysis of Protein Export in Escherichia Coli K12	C A Descen M N Hall T I	
	Escherichia Coli K12	S. A. Benson, M. N. Hall, T. J. Silhavy	54:101-34
	Structural Aspects of the Red Cell Anion	Sinary	54.101 54
	Exchange Protein	D. Jay, L. Cantley	55:511-38
	Molecular Properties of Voltage-Sensitive		
	Sodium Channels Hormonal Regulation of Mammalian Glucose	W. A. Catterall	55:953-86
	Transport	I. A. Simpson, S. W. Cushman	55:1059-90
,	IRUSES AND BATERIOPHAGES		
	Cellular Oncogenes and Retroviruses	J. M. Bishop	52:301-54
	The Gene Structure and Replication of		
	Influenza Virus Impact of Virus Infection on Host Cell	R. A. Lamb, P. W. Choppin	52:467-506
	Protein Synthesis	R. J. Schneider, T. Shenk	56:317-32
	The Structure and Function of the	R. J. Schleder, T. Stehk	30.317-32
	Hemagglutinin Membrane Glycoprotein of		
	Influenza Virus	D. C. Wiley, J. J. Skehel	56:365-94
	The Molecular Biology of the Hepatitis B Viruses	D. Ganem, H. E. Varmus	56:651-94
	Vituses	D. Ganem, H. E. Varmus	30.031-94
1	ITAMINS, GROWTH FACTORS, AND ESSENT		
	Vitamin D: Recent Advances	H. F. DeLuca, H. K. Schnoes	52:411-39
	Vitamin K-Dependent Carboxylase	J. W. Suttie	54:459-77
	Taurine: Biological Update	C. E. Wright, H. H. Tallan, Y. Y.	ee. 100 c.
	Receptors for Epidermal Growth Factor and	Lin, G. E. Gaull	55: 427–54
	Other Polypeptide Mitogens	G. Carpenter	56:881-914